Vol. XXXVI No. 2

ALBANY MEDICAL ANNALS

Journal of the Alumni Association of the
Albany Medical College

FEBRUARY, 1915

Ἀσφαλὲς καὶ ἔμπεδον ἔστω τὸ σὸν ἔδος. Ἐκ σκότου μὲν ἄγαγε
φάος, ἐκ δὲ πάθους ἀναψυχήν

ALBANY MEDICAL ANNALS

Journal of the Alumni Association of the Albany Medical College

ALUMNI COMMITTEE

A. VANDER VEER, M. D. W. G. TUCKER, M. D. ANDREW MACFARLANE, M. D.

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Vol. XXXVI, No. 2 CONTENTS February, 1915

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Publisher's Department

SPECIFY THE BRAND.—Every now and then one is forcibly reminded of the fact that the pharmaceutical market of today contains many so-called therapeutic agents of doubtful medicinal value—agents of indefinite and varying potency. The point was well brought out, not so very long ago, by a certain chemist who purchased in the open market ten samples of tincture of opium in which the content of morphine varied from 2.7 to 22.8 per cent. Of three tinctures of aconite which he examined, one was found to contain 9 per cent. more of aconitine than the standard required, and another 20 per cent. less. Two specimens of fluid extract of the same drug contained 18.5 per cent. and 25.5 per cent. more, respectively, of the alkaloid than is officially required. Samples of belladonna showed 11.5 per cent. less of mydriatic alkaloids in the fluid extract of the root, and 17 per cent. more in the tincture of the leaves. Some tinctures and fluid extracts of nux vomica revealed an excess of strychnine—in one case of 19 per cent.

It is well known that Parke, Davis & Co. are authorities upon the subject of standardization, chemical and physiological, and it may be confidently asserted that the practitioner of medicine who reads and ponders what is said in the announcement referred to will find that his time has been well expended. The physician's obligation to his patient, it should be remembered, does not cease with the writing of a prescription. There remains the further duty to assure himself that trustworthy products are used in compounding that prescription. When he prescribes a fluid extract or tincture the physician owes it to his patient to specify the brand—the brand of a reliable manufacturer.

Publisher's Department

SCHERING & GLATZ HAVE NOT ADVANCED THE PRICES OF THEIR THERAPEUTIC SPECIALTIES.—As soon as possible after the outbreak of the European War and the full realization of the resulting disturbances in the importation of foreign drugs, the above announcement was made to the drug trade, and, as far as possible, to the medical profession.

Nevertheless complaints from many quarters to the effect that increased prices are being charged and that several wholesale houses have taken it upon themselves to include "S. & G." preparations in their general advance for foreign drugs. In a few instances this has been acknowledged as an oversight and adjustment made; in others, it seems to continue unchanged. Moreover, retail druggists, without being charged more for these products by their wholesalers, are reported to be taking advantage of the regrettable situation and boost prices on their own account.

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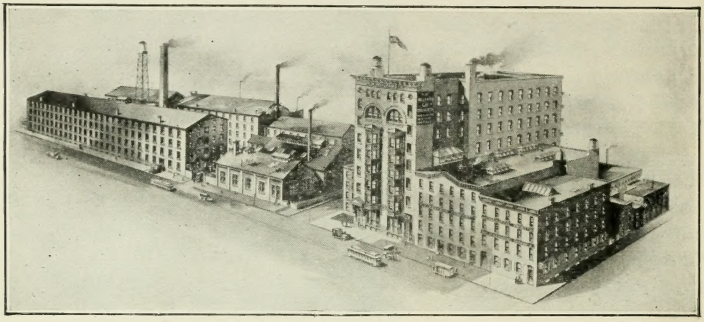

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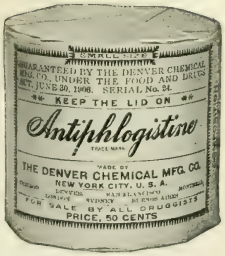

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All fees are payable in advance, and are as follows: Matriculation, $5, payable each year; Lecture course, $125; Dissection and Laboratory courses, see catalogue. Graduation fee, $25.

The regular Fall Session commences Tuesday, September 22, 1914, and closes May 25, 1915.

For Catalogue of the College or further information, address,

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Publisher's Department

Pituitary Extract in Obstetrical Practice.— Physicians who are employing pituitary extract in cases of delayed parturition will be interested in this excerpt from an announcement by Parke, Davis & Co., which appears in the December issue of a contemporary:

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Publisher's Department

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VOL. XXXVI FEBRUARY, 1915 No. 2

ALBANY MEDICAL ANNALS

Original Communications

SOME PHASES OF CARDIO-RENAL DISEASE FROM A THERAPEUTIC STANDPOINT.

Read at the annual meeting of the Fourth District Branch, September 13, 1914, Gloversville, N. Y.

By N. A. PASHAYAN, M. D.,

Schenectady, N. Y.

The pathogenesis of arteriosclerosis and its relation to hypertension and contracted kidney are still mooted questions. No attempt will be made in this paper to enter into such a discussion. The coincidence of cardiopathy to nephritis was well pointed out by Richard Bright in his original communication in 1836. A vast amount of clinical and pathological evidence, since, has accumulated indicating the close interrelation of the heart, blood vessels and the kidneys, so that at present cardio-vascular-renal disease may be considered as a definite symptom complex. It is not well known as yet if hypertension is a precursor or runs *pari-passu* with sclerotic changes in the vessels and kidneys, but it is certain that a disturbance in one field seriously involves the other structures. Pathologically the process consists of vascular induration, sclerosis of the renal tissue, hypertrophy and subsequent degeneration of the myocardium.

While there is an apparent uniformity in the structural changes, the clinical manifestations are extremely variable. Some patients will complain of a certain or a group of symptoms, while others exhibit totally different ones. Furthermore, therapeutic measures beneficial in one group fail to exert a favorable influence on others. No pathological data are as yet available to account for this diversity of symptoms. It may be reasonable to assume that the sclerotic changes are not uniformly distributed throughout the system and the province most affected determines the clinical picture.

In the order of frequency dyspnea perhaps occupies the first place. It is familiar to all how often shortness of breath is com-

plained of by patients suffering with valvular lesions of the heart when decompensation sets in. But the type of dyspnea that we desire to call particular attention to does not belong to this category. Examination of the heart reveals nothing seriously wrong. There may be moderate or excessive enlargement and the second aortic sound accentuated, no incompetency of the valves or arrhythmia are present. The blood pressure is above 160 but not always. Polyuria is frequent but not constant; albumen and casts are occasionally found. The characteristic feature of this form of dyspnea is that while the patient is at rest suddenly he is seized with breathlessness, which may even assume the Cheyne-stokes type and in a few minutes the attack is over and the patient breathes in comfort. It is true at first dyspnea appears on exertion, but once the disease is established the periodic attacks are not dependent on muscular effort alone. The attacks are purely uremic and run parallel with the urinary output. In conjunction with all the eliminative measures at our disposal diuresis is the keynote of treatment. A typical case of this character may be cited:

A man 60 years old, excellent habits, has been a voracious eater in the past. About two years ago he began to experience shortness of breath on exertion, which gradually increased in severity. Three months ago when he first came under observation he was extremely dyspneic, was unable to lie down and had slept but very little. On examination he was found well nourished, heart moderately enlarged and second aortic accentuated. No murmurs, arrhythmia, edema, cyanosis, vertigo or any other subjective complaints. Blood pressure, systolic was 240 and diastolic 120. With the total elimination of the proteids the systolic blood pressure dropped to 160; no change in the diastolic. Nitrites had given him little relief in the past. Digitalis in full doses proved beneficial but had to be abandoned on account of gastric irritation. While taking digitalis, patient himself remarked that he was passing large quantities of urine and he felt easier. Under theobromin, alternated with alkaline diuretics, there has been a steady improvement in his condition. He has been able to undertake a moderate amount of work.

Now and again we are confronted with dyspnea in connection with high blood pressure and definite valvular lesions of the heart, a condition designated by Sahli "Hoch druckstauning."

Is the cardiac decompensation or uremia at fault? What are the therapeutic indications? To illustrate: A machinist, age 38 drank to excess in the past. A few months ago developed shortness of breath that would come and go, worse on exertion. When he first presented himself he was panting; there were general anascara, ascites, enlarged liver and right hydrothorax. Apex of the heart was in the sixth space and at the mid-axillary line. Double aortic and mitral murmurs. Blood pressure systolic was 220, diastolic only 10. Urine scanty and contained albumen and casts. Was his condition due to cardiac dilatation or uremia? He was put to bed, all proteids eliminated, free catharsis induced. He was unable to tolerate digitalis, strophanthus was substituted. The systolic blood pressure dropped to 160 and the diastolic rose to 20. Anasarca disappeared, no reduction in the area of the heart dullness. The ebb and flow of breathlessness continued. Urinary output did not exceed 600 c. c. As long as free diuresis was kept up the dyspnea was in abeyance and the patient made comfortable.

In these cases a matter of great importance is the question of sleep. For days these unfortunate sufferers sit up in a chair or walk the floor without getting a night's rest. A mixture of chloral with ammonium bromide answers the purpose well. At times it may be necessary to add some deodorized tincture of opium as well.

Angina pectoris or anginoid attacks are frequently met with in subjects of cardio-renal disease. The stenocardia may conform to the typical text-book description or appear as a sense of precordial distress and oppression. Excluding cases due to aneurysm there is nothing in the physical examination pathognomonic of the disease. Hypertension is as frequent as hypotension. Dyspnea on exertion is often present. For the relief of the attacks nitro-glycerine is the remedy par excellence, and on its failure morphine is indispensable. In the absence of luetic infection, iodides are useless to prevent their recurrence. Rest, avoidance of mental strain and excitement and small doses of belladonna are of service.

A peculiarity noticed in some cases of stenocardia is the tendency to develop acute attacks of pulmonary edema. How much responsibility could be charged up to the customary administration of iodides in these cases is difficult to estimate. Remember-

ing the views of Jas. Mackenzie as to the causation of angina pectoris, this complication is not easily explained. A rather unusual case, still under observation, pertains to an old man 72 years old. A carpenter, no habits. He has been in poor health for some time. About six months ago he began to experience a feeling of painful constriction in the right hand, which would extend up the arm, right shoulder, then back of the neck and finally locate in the precordium. Peripheral arteries were palpable. Heart not enlarged. Blood pressure, systolic 140, diastolic 80. Nitro-glycerine would invariably give him prompt relief. Soon he developed attacks of acute pulmonary edema, usually at night, when his lungs would fill up with bloody froth, expectorating large quantities of it. Six such attacks took place within a month and each time nitro-glycerine by mouth and atropine subcutaneously cut them short. He was receiving iodides during this period. They were stopped and the attacks have ceased since.

Headache and vertigo, but seldom together, are the only symptoms complained of by some of the patients with cardio-renal disease. Dyspnea, anginal pains, edema do not accompany them. A constant pathologic condition present is the heightened blood pressure. The headaches as a rule are periodic, occur usually in the morning and often assume all the characteristics of true migraine. The most essential therapeutic indication is the elimination of proteids from the diet with regular, at least once a week, free catharsis. In some cases extract of the thyroid gland and in others strychnin have appeared to lessen the frequency and the severity of the attacks. Although hypertension is the most outstanding feature, vaso-dilators do not seem to influence the course of the disease.

Vertigo is the most rebellious to be combatted with. It may appear as a sense of uncertainty of equilibrium or may be severe enough to militate against the patient's walking in safety. With it many sufferers complain of psychic insufficiency, inability to think and plan as customary. Several attempts to reduce the blood pressure by dietary courses were not successful and vaso-dilators proved distinctly harmful. Notwithstanding the theoretical presser effects, ergot is the only remedy that has seemed to offer some relief. The disorder is evidently due to marked

sclerotic changes in the cerebral vessels and it is common to find such evidence by an ophthalmoscopic examination of the retina.

A fourth group of arteriosclerotics exhibit clinically only sensory and neuritic disorders. These combine various paresthesias, numbness, tingling, burning sensations as well as the most violent attacks of neuralgia and neuritis. In these cases other clinical manifestations are lacking. There is generally a moderately high blood pressure, oliguria with an excess of indican. Paresthesias yield as a rule to a purin free diet and diuretics. For the neuralgias and neuritis high frequency currents are very effective. The brachial plexus, the left by predilection, seem to be the favorite seat. If the case has not been a long standing one relief is prompt and lasting. A woman, 48 years old, had suffered with numbness in the extremities for several months, was a hearty meat eater. Three months before coming under observation a severe attack of right-sided brachial neuritis set in. The pain was constant and prevented her from sleeping. All meats and eggs were excluded. Twice a week high frequency currents were applied. For two years she has enjoyed good health.

These are a few of the diverse clinical manifestations of the protean cardio-renal disease. It may appear in motor and sensory paralysis, such as monoplegias, give rise to aphasia, simulats, or produce apoplexy, uremic coma or convulsions and lead up to mental deterioration so well described by Alzheimer.

To summarize: while cardio-renal disease has apparently a uniform pathologic histology, its clinical manifestations are diverse and the therapeutic measures to be adopted differ in important details. The essential principle to be borne in mind is that hypertension is not an indication for its suppression. It is a protective measure adopted by nature, and when it cannot be reduced by regulating the diet it should be left alone. Nitrites have no utility except in aborting attacks of angina pectoris or pulmonary edema. When lues is not a factor iodides are equally useless and may even do harm. Sudden reduction of blood pressure is a bad omen and it often indicates cardiac dilatation and presages edema and hydrothorax. When we meet such reduction and when cardiac decompensation is impending, even in the presence of hypertension, digitalis should be given in full doses. The theoretical presser and cumulating effects of this drug have been clinically established to be without foundation.

A FEW OF THE MORE FREQUENT EAR CONDITIONS.

Read at the Rensselaer County Medical Society meeting, held Tuesday Evening, November 10, 1914.

By JOHN J. RAINEY, M.D.

Attending Surgeon Nose and Throat Department, Troy Hospital.

Mr. President and Gentlemen:

The external canal or meatus is divided into three parts, membranous, cartilaginous and bony. The cartilaginous and bony parts come together forming an angle, therefore, in order to see the whole canal and ear drum, it is necessary to pull the ear upwards and backwards, thus, straightening the canal. The end of the meatus is the tympanic cavity. It can be likened to a room having an anterior, posterior, external, and internal wall, and a roof and a floor.

Posterior Wall. The upper part of the posterior wall leads into a cavity or large cell called the Antrum, which leads into the mastoid process. The Antrum is one of the most constant cells of the body. It is rarely absent. The inner wall of the Antrum has a hard, smooth, yellow prominence, this is the horizontal semi-circular canal. It is a most important landmark. Often a collection of desquamated epithelium which is called cholesteatoma collects in the Antrum after suppuration and by its pressure erodes the horizontal canal and we get a fistula with a resultant circumscribed labyrinthitis. The roof of the Antrum is formed by the tegmen tympani. It is a thin plate of bone separating the Antrum from the middle fossa. It is obvious how easy cholesteatoma can cause a perforation of the tegmen antri into the middle fossa. More than fifty per cent of cases of abscess of temporal lobe come from Antrum suppuration. The lower part of the posterior wall is formed by a compact mass of bone which covers the descending part of the facial nerve.

Anterior Wall. Just opposite the Antrum on the other side is an opening divided into two canals. The upper contains the tensor tympani muscle and the lower part contains the eustachian tube. The tube opens into the nasopharynx opposite the inferior meatus of the nose. The lower part of the anterior wall is formed by the posterior wall of the carotid canal. Surrounding the carotid artery is a venous plexus, Rektorzik's plexus. The

carotid is lying very loose in the canal and if one accidentally goes through the wall there comes a venous bleeding as a warning. It is possible for the bony wall to be destroyed by tuberculosis, but here as in operation, the venous bleeding gives warning. Now, on the inner wall of the tympanic cavity is the promotory bone, the shell which covers the cochlea, the organ of sound perception. The posterior wall of the carotid may be a little more in the tympanic cavity. Therefore, the carotid being so near the cochlea we get tinnitus, due to the pulsation of the carotid. The noise is constant. If one presses on the carotid in the neck, the noise stops during the experiment. In doing a paracentesis one need have no fear of the carotid. There is only one case in the literature where the carotid ran through the tympanic cavity without a bony canal.

The roof of the tympanic cavity is the same as that of the antrum, the tegmen tympani.

Floor. The floor or lower wall of the tympanic cavity is formed by the groove of the jugular bulb. If deep, it narrows the tympanic cavity from below. If prominent and covered by thin bone, it is possible to injure the bulb during an operation. In the literature there are twenty-three cases where the jugular was injured by paracentesis, there are probably hundreds of cases that have never been reportd. The bleeding following this accident is terrific and hard to check. In packing the ear to overcome it one can't regard the drum, but must go through and take chances on a sinus thrombosis.

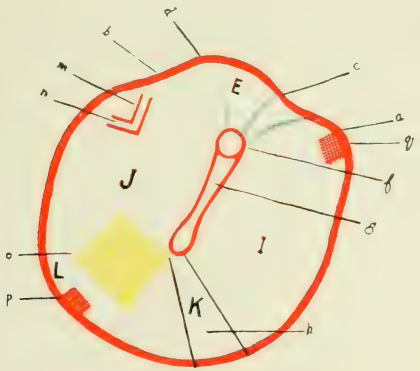
Inner Wall. One part of the horizontal canal looks into the tympanic cavity. Right under it we find the horizontal part of the facial nerve. As it is covered by thin bone, it is easily injured by operation, or in the very young by pressure. Under the facial is the oval window the situation of the foot plate of the stapes, which looks into the labyrinth. In snaring a polypos from the ear, there are cases where the stapes was accidentally removed, infection now invades the labyrinth through the oval window and the patient dies of meningitis. Under the oval window is seen a yellow hard smooth bone, it is called the promotory bone. It is the cover of the cochlea. Underneath this, we see the niche for the round window.

And the external wall of the tympanic cavity is the drum. The healthy drum-membrane is gray and transparent. The first

thing to look for in examining an ear drum, is the short process of the malleus. The drum is very thin here, and the short process appears almost protruding through the membrane. From this landmark we get our orientation. We can then easily outline the handle or malleus, the rounded tip of which is called the umbo. From the umbo to the periphery goes a ray of light which is called the light reflex. From either side of the short process goes a fold to the periphery, these are called from relative positions anterior and posterior folds. Above these folds go two other folds from the short process to the periphery, called Prussack's folds; which limit the space called Shrapnell's membrane. Shrapnell's membrane and the part over the short process are the thinnest parts of the drum. The part included between the anterior and posterior folds and Prussack's folds are the thickest parts of the drum. The heads of the malleus and incus divide the upper part of the tympanic cavity into the attics; external and internal. The external attic is the important one. In every suppuration of the external attic, Shrapnell's membrane is the typical seat of the perforation. The drum is divided into four quadrants by a line drawn through Shrapnell's membrane, through the umbo to the periphery and a line at right angles from either side just touching the umbo. The quadrants are called anterior and posterior superior quadrant and anterior and posterior inferior quadrants. In the posterior superior quadrant is seen the long process of the incus and the posterior leg of the stapes, when these are present to the vision it is proof positive that absolutely no inflammation of the drum exists. In the posterior inferior quadrant is seen a yellow shadow which is the promotory bone. In otosclerosis this gives a red shadow and is one of the points of diagnosis in this disease. Just on the edge is seen the shadow of the round window. In the anterior superior quadrant is often seen the shadow of the eustachian tube.

The simplest type of ear trouble is catarrh. In all otitis conditions there is an inflammation of the drum and it is bacterial in origin. In catarrhal conditions, there is no inflammation of the drum and it is non-bacterial in origin. There are three types of catarrhal conditions: (1) dry, (2) wet, (3) secretory. Common to all three types, is the retraction of the drum and bad hearing. All cases hear better after Politzer air infla-

tion. The explanation of the retraction is, that the function of supplying air by the tube is shut off and pressure outside the drum and the external canal being greater than within the tympanum, pushes the drum in and the tympanic vessels become congested accounting for the fullness in the ear. In adults the cause of catarrh is acute rhinitis the " common cold in the head," large turbinates, septum deflections, etc. In dry catarrh there is retraction and the drum is gray. In wet catarrh there is moisture in the tympanic cavity and in secretory catarrh there is a collection of free liquid in the tympanic cavity which is amber and transparent and shows a definite line on the drum membrane and changes on moving the head in different directions. If the secretion locks the oval window the hearing is very bad. The treatment consists of air inflation. Catheterization is contra-indicated as it may irritate the tube. If we get no result on air inflation tip the head down to the same side,



a —Anterior fold. *b* — Posterior fold. *c* and *d* — Prussack's folds which limit *e* Shrapnell's membrane. *f* is the short process. *g* — The malleus (declined backwards), the rounded tip of which is the umbo. From the umbo goes (*h* the light reflex,) to the periphery. Dotted lines divide the drum into 4 quadrants. *i* — anterior superior quadrant. *j* — Posterior superior quadrant. *k* — Anterior inferior quadrant. *l* — Posterior inferior quadrant. *m* — Long process of incus. *n* — Posterior leg of stapes. *o* — Shadow of promotory bone, the cover of the cochlea. *p* — Shadow of the round window. *q* — Shadow of the Eustachian tube.

Schematic Drawing of Normal Ear Drum.

so to allow the fluid to run out easily. If no result from this do a paracentesis and air inflation, open through the anterior inferior quadrant, as there is a strong band of connective fibres here, and the opening remains longer. Retraction of the drum in children is proof positive of adenoids, and when adenoids interfere seriously with nasal breathing, the drum membranes are greatly retracted. Immediate removal of the adenoids is indicated.

A catarrhal condition that has not as yet found its way in the books, is known as mucous catarrh, demonstrated but recently by Neuman. The hearing is the same as in secretory catarrh and is worse than acute otitis. A patient doesn't hear the whispered voice, tuning fork tests show middle ear trouble. He complains of deep noises. The drum membrane appears milky and opaque. If the trouble is not treated exactly, adhesions form and a chronic process sets up. For a few years there is not any great change in hearing, but after that, the adhesive changes have done the damage, and the hearing is very bad. The mucus in this catarrh is of a thick slimy character and comes from the eustachian tube as there are no mucous glands in the tympanic cavity. This mucous exudate has a tendency to organize, forms connective tissue and fixates the ossicles. This is the type of case, that escapes attention most frequently, and does not go to the otologist until the hearing is very bad and of course nothing can be done. For a perfect result, they must be seen during the first three weeks of their trouble. Paracentesis is indicated by the diagnosis and should be followed by Politzer air inflation, as the mucus is very thick and will not come out of the cavity otherwise. Dry out this mucus with sterile cotton and put in a wick of sterile gauze in the canal. The patient immediately gets a good result after the operation.

The next condition is traumatic rupture of the drum. It usually occurs on the left side on account of striking with the right hand. It is not necessary to use strong force to rupture the drum, as kissing on the ear will often cause it. Taking a person unawares by closing their eyes with the hands from behind or putting foreign bodies in the ear frequently cause ruptured drum. Never do an air inflation with an athrophic drum, as a rupture of the membrane will occur. All other perforations of the ear drum

have round edges, traumatic perforations have sharp edges especially triangular and bloody. There is always one rupture followed by infection and that is in swimming, diving or being struck by a wave. This type of infection often goes to a mastoid inflammation. *The treatment:* When there is no infection do *absolutely nothing,* as any treatment in the ear may cause an infection, have the patient come for control. If no infection the prognosis is good as they all heal up entirely and smoothly within three or four weeks.

Acute Otitis. Is an inflammation of the middle ear, due to the streptococcus or, diplococcus or, streptococcus mucosus. It is always a mono-bacterial infection. Later however, we may get a mixed infection. The typical course: Pain in the ear greatly increasing. In three or four days the drum is greatly swollen and macerated. The details not visible. The bulging mostly on the posterior superior quadrant. The first stage is the stage of serous secretion, it lasts two or three days, then the drum is either opened, or ruptures spontaneously, and we come to the second stage, that of purulent secretion which lasts about two weeks. The patient has no more pain. From the meatus comes thick pus. The patient complains of noises and bad hearing and now, we pass to the third stage, the stage of mucus secretion which lasts about two weeks, his complaint is about the same as the purulent stage, and now he passes to the catarrhal state which lasts about two weeks. The drum is gray, not transparent, hearing is not perfect, patient hears slight noises, has a feeling of fullness in the ear, but in a few days he is perfectly well. Six weeks is the course of an uncomplicated acute otitis. In acute otitis the short process is the last detail to disappear and the first to appear when healing takes place. In the first stage he may have pain in the mastoid region, but this is not significant as Politzer gives a law that in the beginning of every acute otitis there is also an inflammation of all the cavities connected with the ear. It only means something if it is present in the second stage. All operations of acute mastoid trouble are done in the second stage, that of purulent secretion. The very beginning of the first stage, the treatment consists of putting in the ear a three per cent carbolic in glycerine on a gauze wick. If bulging comes and no details present, do a paracentesis. Do it on the most bulging part. The main thing

about a paracentesis is speed, employ no local anaesthetic as it does no good. Put in a dry sterile wick of gauze and bandage ear to prevent mixed infection. In acute otitis touch up the external canal with five per cent silver nitrate from time to time to prevent an external otitis. Cleanse the ear frequently with sterile cotton and put in a wick of gauze saturated with Burow's solution as often as necessary. Do not syringe as the condition is often prolonged by this old method. In modern otology syringing of the ear in acute conditions has no place.

The mastoid process consist of three kinds of bone, a pneumatic where there are great air spaces, diploitic small spaces, and sclerotic solid bone. When an acute otitis comes to a mastoid complication there is always a pneumatic bone, seldom diploitic and never sclerotic. If we have spontaneous pain in the purulent stage, it is a mastoid complication or if pain disappears and reappears again it is a sign of a mastoid, redness and edema is diagnostic if over the mastoid. Usually there is no fever in acute mastoid trouble, if fever is present, it may mean sinus thrombosis or dural involvement, children usually have fever. The classical indications for operation are pain on pressure over the mastoid antrum, the tip and the posterior edge of the mastoid, and the dropping of the posterior superior canal wall, all these symptoms appearing in the second or stage of suppuration.

The type of mastoid trouble due to the streptococcus mucosus is most dangerous, the patient has a little pricking pain in the ear for a few days, it discharges for a couple of days, and apparently is all right. If a case happens to be seen in the early stage, the drum membrane is slightly reddened details present, but not distinct, of course we don't see the incus or stapes. *A few months later* complains of a little pain over the mastoid, the mastoid is sensitive to the air, the ear now becomes a sensation organ. If we examine the drum at this stage, we find it intact, and soft, retracted and thickened, hearing is very bad, the condition looks like a catarrh, but operation shows it to be an extra dural abscess. The streptococcus spreads out in a pneumatic mastoid, and as its life is a short one it must do damage in a short time, it doesn't produce any severe inflammation in the tympanic cavity, as it doesn't like a cavity with a mucous membrane, but goes into the bone and develops there. The symptoms come

when the disease reaches the sinus or the brain. Mastoid operation is indicated, remove the bone until the healthy dura is reached. The granulations are not touched, if we remove them we may open the blood and lymph vessels and meningitis develop.

Chronic Otitis. The difference between acute and chronic otitis media is, that the acute has a small perforation and non-smelling pus, and chronic otitis has a large perforation, foul smelling pus, or other signs of chronicity, as polypi, granulations, cholestatoma and bone destruction. In acute otitis of children the pus is foul smelling. Only in scarlet fever is produced a large perforation in acute otitis, it has a chronic type from the beginning. The germ tends toward chronicity.

Tuberculosis of the ear is chronic from the beginning. It is always secondary to tuberculosis elsewhere, as is tuberculosis of the larynx. Its chief characteristic is the absence of pain, and the prognosis depends upon the general condition of the body.

Cholesteatoma, scarlet fever and tuberculosis are the ear conditions producing bone destruction.

In conclusion just a word regarding intercranial complications. The danger of intercranial complication is in the retention of pus. The route of infection is usually through the posterior and superior walls. It goes in one of two ways. (1) In an anatomical way, through blood vessels and cavities, (2) In a pathological way, by means of a fistula. In acute otitis the usual complication is in the posterior fossa, because the mastoid is diseased, and as a result get retention in the cells. Labyrinth disease complicates the posterior fossa through the aqueductus cochlearis or vestibule. In Chronic otitis connective tissue develops in the mastoid and it becomes almost solid bone, so there is no place for retention. The pus follows the easiest path and goes through the tegmen tympani to the middle fossa. Sinus thrombosis is of both types, diffuse and localized. One of the most recent advances in otology is that an acute otitis usually goes an anatomical preferential way, and chronic otitis goes a pathological preferential way. The diffuse complication is meningitis, the localized complication is extra dural abscess. This classification is only a recent advance, as if we operate the middle fossa we must do a radical and of course greatly injure the hearing. Now if we have an acute otitis complication, the

posterior fossa or sinus is operated first, middle fossa later if necessary and not vice-versa, as was formerly done. The first question we ask ourselves if complication is suspected, has the patient acute otitis or chronic otitis? If acute otitis operate the posterior fossa, if chronic otitis operate the middle fossa.

SECOND REPORT OF THE HEALTH DIRECTOR IN THE PUBLIC SCHOOLS.

By CLINTON P. McCORD, M. D.

(This report is for the period July 1, 1913, to June 30, 1914.)

Dr. C. Edward Jones, *Superintendent of Schools.*

Dear Sir.—I have the honor to submit to you, this, my second annual report upon health work in the schools.

During the summer following the printing of my report on the initiation of the work in Albany, our school nurses made 536 home visits, which resulted in 157 additional medical treatments, 64 pairs of glasses, 56 dental treatments and 28 operations for nose and throat defects. These were cases that were examined in the spring of 1913 but which the nurses found no time to "follow up" because of press of other work, until after the termination of the school term. These results, therefore, raise the level of response to parental notification cards to approximately 47%, for the report covering the period ending June 30, 1913. The plan of "following up" a number of cases in the summer is not the most desirable procedure, as a much higher per cent. of treatments and cures can be obtained where the nurses are free to "follow up" cases with defect within two or three weeks after notification cards have been received by the parents. This is possible only where eye and ear tests are not required of the nurse, thereby leaving a portion of their afternoons free for home visiting.

Let me first refer with satisfaction to the fact that through your wise and constructive policies definite steps have been taken to meet two needs that were so pressing last year when I rendered my first report: (1) measures to relieve the cry of the "special child" for humane and proper consideration in the free school system of a modern city, and (2) the institution

of a dental dispensary to supplement in some measure health agencies directed toward improving oral conditions amongst school children. Such a dispensary was founded and a dentist added to our staff on January 9, 1914, and your system of "special classes" for the backward and mentally deficient, so well initiated, has only to be extended to place Albany at the head of the list of cities in the wise policy of making adequate and proper provision in its school system for these unfortunates that heretofore have been an expensive clog and handicap in the regular grades.

In addition to these two institutions, the fresh air idea has been promulgated and has been expressed in the broader policy of educational hygiene with the plans for the start of a system of open-window class-rooms for poorly nourished children. These provisions all bespeak foresight and complete grasp of the lines along which educational systems must advance during the next few years. They are the provisions that will place this city at the front, as a leader, in harmony with the wise and expanding policy of a beneficent State department.

For the school year properly covered by this report the following (in addition to the 536 home visits recorded in our opening paragraphs) are the quantitative tabulations:

Staff: Health Director (full time).
Four school nurses (full time).
Dentist (employed for 100 half days under supervision of Health Director).

Number of pupils registered	13,303
Number of school visits by Health Director	127
Number of school visits by nurses	1,861
Number of home visits by nurses	946
Number of half-days professional service by dentist	69
Number of children receiving routine physical examination at hands of Health Director	2,715

Tabulation (based on the above 2,715 first and fifth grade children).

Defective vision	222
Corrected	31
Defective hearing	24
Corrected	12
Enlarged tonsils	192
Treated	25
Operated	10

Nasal obstruction	26
Treated	12
Operated	1
Poor nutrition	159
Decayed teeth (3 or more each)	1,009
Treated by dentists	101
Treated at dispensary	63
Nervousness	300
Notified	4
Treated	4
Stoop shoulders	902
Lateral curvature	171
Rachitic remains	14
Enlarged glands	189
Speech defect	24
Eczema	140
Notified	3
Treated	3
Miscellaneous conditions as follows:	
Pericranial abscess	1
Cretinism	1
Mongolianism	2
Hare-lip	2
Cleft palate	5
Double club foot	1
Extreme general uncleanliness	1
Habit spasm	1
Chorea	1
Coxalgia (healed)	3
Potts Disease (arrested)	2
Interstitial Keratitis	1
Healed tuberculous knee	1
Number of children whose eyes were tested by nurses	8,962
Notified	688
Glasses secured	163
Number of children whose ears were tested by nurses	8,962
Notified	73
Treated	46
Operated	1
Number of children with discharging ears	18
Treated	11
Number of children with pediculosis	809
Cured	301
Improved	469
No improvement	39

Number of pupils excluded from elementary schools for varying periods of time, with reason for exclusion:

Pediculosis	295
Scarlet fever	26
Diphtheria	20
Measles	31
German measles	45
Mumps	11
Chicken-pox	86
Whooping-cough	59
Tonsilitis and sore throat	75
Contagious Impetigo	35
Scabies	3
Favus	4
Ringworm of scalp	5
Ringworm of body	13
Conjunctivitis (simple)	39
Conjunctivitis (phlyctenular)	3

A special study of the question of school time lost through exclusions for contagious conditions will be rendered in another form at a later date. It is sufficient here to state that an adequate staff of school nurses with regular inspections of groups of children would go far toward further reducing the spread of these diseases, and hence would lessen this waste of school time that is measurable in dollars and cents. As it now is, not a few cases of these diseases sit in the classes, undetected, through the most communicable stages of a disease, thus exposing many non-immune children to infection. We have endeavored to handle the exclusion of "contact" cases by supplying the principals with a definite and concise bulletin which, when rigidly adhered to, saves the Health Director valuable time, and offers the maximum of protection to the pupils where a daily visit by the nurse is not yet possible.

In addition to the foregoing are the following cases seen at the time of the routine forenoon visits to the schools, and spoken of as "miscellaneous cases":

Eczema (all kinds)	172
Acute adenitis	27
Discharging ears	22
Defective hearing	6
Wry neck	5
Epilepsy	5
Wounds and simple impetigo	71
Total	308

Received treatment	254
Emergency treatments	36
Other cases seen by nurses (including headaches, nausea, urticaria, sprains, and pupils sent unnecessarily)	1,173
Second grade children examined for decayed teeth	1,257
Number notified (3 or more decayed teeth each)	631
Number treated (family dentist)	76
Number treated (dispensary)	57

Health Certificates.

The state medical inspection law gives the parent the privilege of having the family physician make the yearly examination, and for this examination a special health certificate is prescribed. Health certificates were furnished by the parents of 1,247 children in the elementary grades. These have been tabulated in reference to grade, school and section of the city, and the curves plotted. These health certificates were filled out by 136 different physicians and the results are as follows:

Number of children having	
Defective lungs	6
Heart lesions	11
Defective glands	100
Hernia	8
Enlarged, cryptic tonsils	276
Frequent sore throat	30
Chronic pharyngitis	38
Adenoids	50
Nasal spurs	28
Digestive disturbances	0
Poor nutrition	2
Poor teeth	119
Other physical defects	79
Communicable disease	2

A detailed, comparative and explanatory analysis of the health certificates will be presented in another form at a later date.

More comprehensive reports will be made later in the form of special studies based upon:

A. Examinations of Children in the Ungraded School.

However, we may here say briefly that over 80% of the 71 children there examined (from both physical and psychological

standpoints) were mentally deficient, and should have been cared for in special classes in the schools from which they were committed, leaving the ungraded school entirely for the delinquents and for those excitable types of defective that require in their proper discipline and management unusual skill, moral strength and understanding.

B. Special Classes for Backward and Mentally Deficient Children.

In all, 125 children have received both physical and psychological examination, and 25 additional psychological examinations have been made. For very basic scientific reasons admissions to and transfers from these classes should be made only upon the recommendation of the Health Director, which is the method that you have directed in our system. Fifty-four children have been so committed to these classes during the past year, and have there received training which was suited to their abilities and under which they have been happy and contented. The course planned for this summer for the training within our own school system of teachers for this work is a step that should be productive of much advance in the understanding of the purposes of work with subnormal children, and that other cities might well take to heart from the standpoint of both economy and professional efficiency. I am glad to report that we have completed plans, whereby, in the autumn, a "follow-up" system will be initiated in all special class cases that leave school by reason of passing beyond the compulsory attendance age. We should know what is happening to these unfortunates in order to demonstrate the pitiable failure of all *regular* school methods to fit these children to become properly self-supporting citizens.

C. Open-Air School.

Admissions to and transfers from this school are now made only above the signature of the Health Director. Parental consent is secured on a special blank (after the nurse has made the proper social investigation) in the case of every child placed under open-air treatment. I wish to speak of the good work of Miss Freeman in these investigations, of the courtesy of Dr.

Hawn, Chief of the Tuberculosis Clinic, and of the cooperation of his staff. The child is examined at the clinic and the examiner reports the result to the Health Director on a special blank. An examination always takes place before any child is returned to the regular grades. No child with communicable tuberculosis is admitted to the school. I take it, that with complete examinations of our entire school population, as is required by the state law on medical inspection, a few children with open tuberculosis will be discovered. These children have a definite claim upon the school system, and yet at present we have no place in which they could be accommodated. They would necessarily be forced out and thrown under conditions that would rapidly put them in the incurable class, whereas, they should be given a chance to overcome their disease and at the same time acquire what school life has to offer them. From work in Chicago, St. Louis, New York and other cities, we estimate that there are at *least* 30 such children in the public schools of Albany.

It would seem only wise foresight to seek to continue our relations with the Anti-Tuberculosis Committee in the maintenance of the open-air school in Ash Grove Place, with the idea in mind that it will become the haven for the tuberculous children in our schools, while our proposed open-window class rooms, conducted with relatively little expense, will care for the poorly nourished children.

Miss Geraldine Mullin, teacher in the open-air school, reports the following interesting details:

Number of pupils registered	35
Number transferred	2

The coldest day in the year, when the thermometer stood at ten degrees below zero, six little boys appeared and voluntarily decided to remain until one o'clock. One day in the class room a cup of water became coated with ice in a very short time, and yet the " fresh-air smile " and the wideawake appearance of these children is always remarked by people who visit open-air classes for the first time.

Miss Mullin acknowledges the kindness of Mr. James H. Perkins, formerly of the National Commercial Bank, who sent two large turkeys for the Thanksgiving dinner of her fresh-air family; and also the generous gift of money from Mrs. Albert

Hessberg who wished the children to celebrate her birthday through the happy medium of a party.

Miss Mullin, with the enthusiasm characteristic of successful open-air school workers, says: "No one need feel sorry for us 'way down there in the cold,' as we are very happy. We have adopted as our school motto:

> The thing that goes the farthest
> Towards making life worth while,
> That costs the least and does the most,
> Is just a pleasant smile.

The 'hardships?' The teacher and her fresh-air pupils say—we do not mind them."

With the open-window class room to be opened in School No. 6 in the autumn, and with the proposed provision for fresh-air classes in the new School No. 14, a considerable number of children (just as much in need of this treatment as are those now enjoying it) will reap the benefits that experience in many cities has shown result from this type of school provision.

D. Scope of Work and Proper Administration of the School Dental Dispensary.

I may here briefly state that only cases that have been properly investigated and certified by the nurses as unable to pay for dental work are given admission cards. Complete records are kept of all cases. The work has been confined to children of the first and second grades, excepting a few emergency cases—abscesses; or in severe toothache, when palliative treatment has been given.

With one dentist, working three afternoons a week for approximately 33 weeks, it obviously would be impossible to handle all children requiring treatment, even by confining the work to the first two grades. It has therefore been the policy to reach the children with decaying "six-year" molars—the most important teeth of the permanent set. Ninety-two per cent. of the children treated since the opening of the dispensary have had these important teeth saved for them—thereby preventing faulty eruption of the other permanent teeth with the facial deformities that frequently result.

Number of half-days dental dispensary was operated	69
Number of children examined	143
Number of cases completed	82
Number cases partially completed	61
Number operations (including treatments, fillings, extractions and draining of abscesses)	1,023

Our hearty thanks are due to Drs. Canaday, Sr., Blatner, Allen and Van Loan for their invaluable help in the selection and installation of equipment, and for their sympathy and advice at all times in furthering the cause of oral hygiene.

Of the work and personality of Dr. James Canaday, Jr., I cannot speak too highly. His excellent training and professional spirit together with his remarkable skill in handling young children, make him an ideal man for a school dental dispensary surgeon.

The need for an extension of the dental work is very evident. Hundreds of children still suffer from the lack of attention that an increased dental force could render.

At the beginning of the year a most satisfactory arrangement was effected with Dr. Arthur Sautter, the city Health Officer, for an exchange of reports each morning by telephone on the subject of contagious diseases.

This real and effective cooperation means uniformity in the matter of exclusion from school because of these diseases, and this, together with the satisfactory bulletin that has been worked out through our cooperation, plus the Health Officer's efficient stand in the matter of diphtheria "carriers" that we exclude from school, leads us to feel that the relations between this office and that of the city Health Officer are such as make for the very highest and most effective professional management of a phase of public health work that is "at loose ends" in many cities.

During the year 133 "cultures" were taken and several "carriers" were excluded from school, thereby aborting epidemics of diphtheria, or at the very least, saving many children from direct and prolonged contact with disseminators of the disease.

Emergency cabinets with supplies for "first-aid" work were installed last autumn in every school, including two in the high school, and the principals and teachers were given talks on the equipment and its uses.

Double filing cabinets were also installed in all the schools, and the physical examination records of the children are there in alphabetical order. We must appreciate the fact that this record is as much a rightful item in the child's school life as is his report of school progress and attendance, and should be considered in conjunction with these records if justice is to be done the pupil. These cards should be transferred with the other records of the child when he leaves any particular school.

I wish to express appreciation of your policy of having the Health Director and certain of the nurses attend state and national conventions and meetings along the lines of their work.

Our two nurses who were sent to St. Louis last April brought back "things worth while." Miss Bridgeford read a paper there which subsequently attracted no little interest. During the year the Health Director has given 23 lectures along school health lines before various audiences, and three talks have been given by nurses in certain schools. The Health Director has had visits from 24 physicians of the state who are engaged for the first time in school medical inspection and who came to talk over plans for their work. He also has had quite a heavy correspondence with school health workers and educators of this and a number of states in reference to details of our work in Albany.

We have also compiled the age-record cards and have tabulated the over-age children for the entire school system. Eleven pairs of glasses have been purchased for children who were unable to buy them, and whose dispensary prescriptions showed them badly in need of this relief.

We have received a gift of some old gold in the shape of eyeglass frames from one of the teaching force, and one dollar in money from an anonymous source, toward buying a pair of glasses for some child.

Our library along school health lines has been added to and some needed psychological apparatus has been purchased.

Thanks are rendered to the Director of Vocational Training for his response to our need for form boards for our examinations and for use in the special classes, as well as for the emergency cabinets which were also made in the vocational school.

We also wish to point to the excellent cooperation that has existed between our nurses and the Attendance Officers. We

have felt their help especially in dealing with certain flagrant cases of pediculosis.

A very comforting phase of our relations with the local health department has rested upon the fact that Dr. Charles K. Winne, Jr., Medical Officer to the Health Officer and Dr. Guyer, Deputy Health Officer, have investigated suspected cases of contagious disease in homes where no physician was employed, and thus we have learned definitely of the nature of the illness and the necessity for exclusion of "contact" children.

The newly organized work of the Physical Director is a correlated force of great value. The future holds much for school health through the cooperation which Mr. Hill stands ready to extend.

The Society for the Cooperation of Charities, through its efficient secretary, Miss Breed, has frequently been an agency of assistance in dealing with certain cases.

In summarizing let me be brief:

The children of the first and fifth grades have been examined by the Health Director; 1,247 children have been examined by their family physicians; 8,962 children have had eye and ear tests made by the nurses; 125 children have received both physical and psychological examination; 143 children have been handled in the dental dispensary; special studies have been made of over-age children and of truants and delinquents; emergency cabinets have been installed in all the schools and filing cabinets have been filled with the physical record cards of the children; a plan for dealing with contagious diseases in the schools has been initiated with the cooperation of the local health department; open-air work has been systematized; 1,988 school visits were made by nurses and Health Director and 946 home visits achieved by the nurses; 133 throat "cultures" were made and several diphtheria "carriers" excluded; 753 children with parasitic and contagious diseases were located and excluded from contact with other children until cured; teachers receiving regular appointments have had physical examinations by the Health Director and fourteen teachers were thus examined during the year; 906 children received treatment, were operated upon, or had their eyes refracted by Albany physicians, for defects of which parents were notified through this office.

RECOMMENDATIONS

1. The state law on medical inspection requires an annual examination of every child. We have an enrollment of approximately 13,000 children. Health certificates have been furnished by less than ten per cent. of the pupils, with indications that a much smaller response will come in the autumn. The working unit in medical inspection as recognized throughout the country, —as apparent from the past year's work in Albany and as indicated by the State Education Department, consists of one doctor and two nurses for each three thousand children. Our dental dispensary occupies one nurse for three afternoons a week and the special classes might well occupy the rest of her time. I therefore recommend that there be added to our staff five nurses (employed for the same time as are those now with us) and four physicians to be employed for three hours each afternoon during the school year, or as many days as are necessary to complete the work indicated by the Health Director, said physicians to be paid for the number of afternoons actually engaged in such work. This would enable us to comply with the state medical inspection law.

2. Extension of open-air and special class facilities as rapidly as is consistent with good administration.

In thinking over the positive results of the year's work I am led to feel that they have been possible because of the cordial response of principals and teachers, the cooperation of physicians and dispensary chiefs (several of whom have been particularly kind and encouraging), the interest and generous sympathy of a number of public-spirited parents, and the support of many others that are enlisted in the various welfare organizations or are interested as individuals in the health and happiness of children. Of the nurses upon whom has rested so much of the routine work that counts for results in the system, I cannot speak too highly. Their patience, tact, attention to detail, and spirit of earnestness and loyalty mark them as exceptional and invaluable workers in this field. To all these people I render thanks.

To you, as Superintendent, for the inspiration of your constructive policies and for your kindness and wise counsel at all times I am most grateful.

Respectfully submitted,

CLINTON P. MCCORD, M. D.,
Health Director.

Dec. 4, 1914.

Editorial

"I went yesterday morning to my London physician. He sounded me, pushed out his mouth and pulled down his nose, recommended avoidance of excitement. 'Is it heart?' I said. He said it was heart. That was the best thing an old woman could hear. He said, when he saw I wasn't afraid, it was likely to be quick; no doctors, no nurses, and daily bulletins for inquirers, but just the whites of the eyes, the laying-out, the undertaker and the family vault. That's one reason why I went to see Steignton before the blow that may fall any day, whether my brother Rowsley 's there or no. But that Olmer doctor of mine, Causitt, Peter Causitt, shall pay me for being a liar or else an ignoramus when I told him he was to tell me bluntly the nature of my disease."

Lord Ormont and His Aminta. GEORGE MEREDITH.

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Veronalism.

The *Wiener klinische Wochenschrift* of October 29, 1914, is dedicated to the jubilee of Privy Counsellor, Professor Dr. J. H. Wagner R. v. Jauregg, Physician-in-chief of the Niederoesterreiches Landesirrenanstalt at Vienna.

Several important contributions upon various phrases of neurological and mental disturbances are included in this exceedingly interesting publication. Among them is a contribution upon chronic veronalism by Dr. Otto Glaser, which is timely and important in that some light is thrown upon the effects of the habitual use of this drug. Cases of acute poisoning by veronal are not unknown, but the effects of its habitual use have not been widely studied and definite knowledge has not been had, general opinion resting upon a rather vague impression of chronic debility.

Dr. Glaser reports one case in full which pointed to some definite facts. The patient began with small doses, and these were rapidly increased until he consumed three grams a day, for hypnotic purposes, and later found himself in a condition of nervous unrest, irritability and loss of capacity for work. After three years alarming symptoms on the part of the vestibular apparatus suggested some organic brain disease, and these were

associated with defective mental action, disturbances of writing and reading, and motor symptoms, the clinical picture approximating that of a lesion of the vestibule and cerebellum. The discovery of the habit and the detection of veronal in the urine suggested the cause, and led to the belief that this particular group of symptoms was pathognomonic of veronal poisoning and of value in the differential diagnosis. Trional has something of the same effect upon the mechanism for equilibrium. In a case of acute trional poison there was rotary astigmatism toward the right and left, with a slight tendency upward; the limbs of the left side were strongly everted and the trunk was turned toward the left and backward; there was a positive Romberg symptom toward the left side and backward; the caloric reaction was typically exaggerated, and this susceptibility of the cerebellum and vestibule to trional was plainly evident. Chronic abuse of sulphonal results in constipation and dyspepsia, anemia, urinary suppression with hematoporphyrin, albumen and casts, pseudoparalytic symptoms, vertigo, mental stupor and depression, somnambulism, hesitating speech and stammering, tremors, increasing motor and sensory paresis of the extremities and the trunk, associated with partial reaction of degeneration and involvement of the sphincters. The symptoms of trional and sulphonal poisoning are also to some extent characteristic of the effect of veronal, but differ in that disorders of the kidneys and pronounced disturbances of the circulatory apparatus are wanting. The digestive tract is less severely affected, although in acute conditions colic pains, vomiting and loss of appetite may be seen. The most pronounced symptom involves the central nervous system, and is especially prominent in disorders of the cerebellum and vestibular apparatus. There may be tinnitus, vertigo, staggering to the point of falling, sometimes in a definite direction, ataxia, and the eventual development of a condition resembling alcoholic drunkenness. In some cases there are tremors, diminished tendon and superficial reflexes, motor weakness, staring gaze, glistening eyes, neuralgias and paresthesias. In many cases are definite disturbances of speech, which may be dragging, lisping or stammering, and the handwriting assumes a paralytic type. The writer observed epileptiform seizures in two cases.

The amount of veronal to produce these results is estimated

from one-half of a gram to three grams a day, continued over a period of from two months to six years, although naturally the exact amount needed to produce these results in an individual case cannot be determined. Under proper treatment the restoration of health is usually rapid and without unpleasant manifestations. There was only one fatal case in the series reported by the writer, and death here followed an acute prostration from an overdose taken with suicidal purpose.

From these observations the following definite conclusions may be stated:

The habitual use of veronal in small doses may result in a more or less severe condition of chronic intoxication.

The symptoms following the abuse of all hypnotics of the urea group are most manifest in the function of the central nervous system, especially in the effects upon the cerebellum and the vestibular apparatus.

The digestive tract and circulatory apparatus usually escape.

Euphoria and easy habituation to continued use, as well as a peculiar inhibition upon excretory action of the kidneys and intestinal tract, substantially favor the appearance of symptoms of intoxication.

As a result of the chronic abuse of veronal, especially in neuropathic and psychopathic subjects, symptoms of constitutional mental disorders of a more or less active type may ensue.

Public Health

Edited by Arthur Sautter, M. D.

Department of Public Safety, Bureau of Health, Albany, N. Y.

Abstract of Vital Statistics, December, 1914.

Compiled by William F. Fullgraff, Registrar.

Deaths.

Consumption	23
Typhoid fever	2
Scarlet fever	1
Measles	0
Whooping cough	1
Diphtheria and croup	1
Grippe	1
Diarrheal diseases	6

Pneumonia	8
Broncho-pneumonia	6
Bright's disease	11
Apoplexy	17
Cancer	9
Accidents and violence	7
Deaths under one year	16
Deaths over 70 years	36
Total deaths	170
Death rate	18.19
Death rate less non-residents	16.15

Deaths in Institutions.

	Resident	Non-Resident
Albany Hospital	6	15
Child's Hospital	0	1
County House	1	4
Home for the Friendless	0	1
Homeopathic Hospital	1	4
Hospital for Incurables	1	3
Little Sisters of the Poor	0	4
Public Places	1	3
St. Margaret's House	1	1
St. Peter's Hospital	4	7
Maternity Hospital	1	2
Labor Pavilion	0	2
Albany Hospital Camp	2	3
Totals	18	50

Births	174
Still-births	8

TUBERCULOSIS.

Bender Laboratory Report on Tuberculosis.

Positive		11
Negative		41
Total		52
Living cases on record December 1, 1914		371
Cases reported:		
By card	25	
Dead cases by certificate	7	
		32
Total		403

Dead cases previously reported	16	
Dead cases not previously reported	7	
Removed	3	
		26
Living cases on record January 1, 1915		377
Total tuberculosis death certificates filed during December		23
Non-resident deaths:		
Albany Hospital		1
Resident deaths		22

Report of Visiting Tuberculosis Nurse.

Old cases	9
New cases	27
Returned from hospitals	3
Total	39
Disposition of cases:	
Died	3
Sent to hospitals	11
Left town	1
To general tuberculosis nurse	5
Remaining under treatment	19
Total	39
Visits made	20
Visits made, old cases	100
Calls at Board of Health office	29

BUREAU OF CONTAGIOUS DISEASE.

Cases Reported.

Typhoid fever	5
Scarlet fever	25
Diphtheria and croup	8
Chickenpox	34
Measles	2
Whooping-cough	3
Tuberculosis	32
Total	109

Contagious Disease in Relation to Schools.

	Reported D. S.F.
Public School No. 4	2
Public School No. 5	1
Public School No. 6	1
Public School No. 16	1
Public School No. 18	2
Public School No. 22	1
Public School No. 24	1
St. John's School	1
High School	1
Boys' Academy	1
St. Patrick's Institute	1
St. Ann's School	1

Number of days quarantine for diphtheria:
Longest..... 26 Shortest..... 9 Average..... 14 8/9
Number of days quarantine for scarlet fever:
Longest..... 41 Shortest..... 30 Average..... 34 7/20

Fumigations:			
Houses	56	Rooms	248
Cases of diphtheria reported			8
Cases of diphtheria, antitoxin used			8
Cases of diphtheria, antitoxin not used			0
Deaths after use of antitoxin			1

BUREAU OF PATHOLOGY.

Bender Laboratory Report on Diphtheria.

Initial positive	16
Initial negative	171
Release positive	12
Release negative	109
Suspicious	5
Total	313

Test of Sputum for Tuberculosis.

Initial positive	11
Initial negative	41
Total	52

BUREAU OF MARKETS AND MILK.

Public market inspections	6
Market inspections	52
Fish market inspections	1
Rendering house inspections	1

Packing house inspections	2
Hide house inspections	3
Slaughter house inspections	1
Dairies inspected	3
Milk houses inspected	3
Milk houses deficient	1
Milk depots inspected	12
Milk depots deficient	3
Milk wagons inspected	22
Cows examined	67
Milk cans inspected	86
Milk cans unclean	12
Milk cans condemned	3
Sediment tests	11
Lactometer tests	24
Temperature tests	24
Fat tests	7
Chemical tests	5

MISCELLANEOUS.

Work certificates issued to children	9
Number of complaints of nuisances	38
Privy vaults	1
Closets	2
Plumbing	16
Other miscellaneous complaints	19
Number of dead animals removed	266
Cases assigned to health physicians	73
Calls made	166

Medical News

Edited by Arthur J. Bedell, M. D.

ALBANY GUILD FOR THE CARE OF THE SICK.—DEPARTMENT OF VISITING NURSING.—STATISTICS FOR DECEMBER, 1914.—Number of new cases 204; classified as follows: Dispensary patients receiving home care, 10; district cases reported by health physicians, 7; charity cases reported by other physicians, 80; moderate income patients, 83; metropolitan patients, 24; old cases still under treatment, 202; total number of cases under nursing care during month, 406. Classification of diseases for the new cases: Medical, 31; surgical, 8; gynecological, 5; obstetrical under professional care, mothers 47, infants 48; infectious diseases in the medical list, 65. Disposition: Removed to hospitals, 23; deaths, 20; discharged cured, 100; improved, 26; unimproved, 8; number of patients still remaining under care, 229.

Special Obstetrical Department.—Number of obstetricians in charge of cases, 2; students in attendance, 2; nurses in attendance, 4; patients carried over from last month, 1; new patients during month, 6; patients discharged, 6; visits by head obstetrician, 3; by attending obstetrician, 5; by students, 45; by nurses, 48; total number of visits for this department, 101.

Visits of Guild Nurses (all departments).—Number of visits with nursing treatment, 1,334; for professional supervision of convalescents, 613; total number of visits, 1,947; visits to pay cases, 708; to charity cases, 626; unrecorded visits, 613; cases reported to the Guild by 3 health physicians, and 40 other physicians; graduate nurses 8, certified nurses 1, pupil nurses 7 on duty.

Dispensary Report.—Number of clinics held, 87; new patients, 138; old patients, 362; total number of patients treated during month, 500. Classification of clinics held: Surgical, 12; nose and throat, 8; eye and ear, 14; skin and genito-urinary, 7; medical, 12; lung, 9; dental, 0; nervous, 3; stomach, 4; children, 11; gynecological, 7.

Medical Society of the County of Albany.—The regular meeting of the Medical Society of the County of Albany was held at the Elks Club, 138 State St., Thursday evening, January 14, 1915, at 8.30 P. M.

A Symposium upon Carcinoma of the Stomach was presented as follows: "Diagnosis and Medical Treatment," Dr. Jerome Myers; "Skiagraphic Diagnosis and Lantern Slide Demonstrations," Dr. J. M. Berry; "Surgical Treatment," Dr. E. A. Vander Veer. Discussion opened by Dr. L. H. Neuman. An address with demonstrations on "Radium and Radioactive Substances; their production and use," Dr. C. Everett Field, Pittsburg, Pa.

Medical Society of the County of Schenectady.—The regular meeting of the Medical Society of the County of Schenectady was held at the County Court House on Tuesday evening, January 12, 1915, at 8.30 P. M.

Scientific programme: "Obstetrical Service: The Relation of the General Practitioner and Obstetrician to It and to Each Other," Dr. Paul T. Harper, Albany, N. Y. Discussion of Dr. Harper's paper led by Dr. H. A. Kurth and Dr. L. Faust. "The Compensation for Medical Services Rendered to Workmen Under the Employers' Liability Act. The Viewpoint of the Commission," Dr. Frederic Loughran, New York City. Discussion of Dr. Loughran's paper led by Dr. W. P. Faust, Dr. George P. Harran, Dr. A. B. Van Vranken, Dr. C. G. McMullen and Dr. D. R. Kathan.

Meeting of the Medical Staff, Albany Hospital.—A regular meeting of the Medical Staff of the Albany Hospital was held in the Library of the Medical College on Saturday, January 16th, at 5.00 P. M.

Saratoga Springs Medical Society.—The regular meeting of the Saratoga Springs Medical Society was held at the Elks Club, Saratoga, on Friday evening, January 15, 1915, at 8.30 P. M.

Dr. C. Everett Field of New York City read a paper on "The Efficiency of Radio-Active Waters for the Treatment of Faulty Elimination" which was discussed by Dr. William H. Cameron of Pittsburgh, Pa.

New York Physicians' Mutual Aid Association.—The forty-sixth annual meeting of the New York Physicians' Mutual Aid Association was held at the Academy of Medicine, New York City, on Tuesday, January 19, 1915, at 4.00 P. M.

Epidemic of Diphtheria.—The nine public schools in Hoboken and the public library were closed the middle of December because of the rapid spread of diphtheria, and 9,000 students, including those in the high school, were started on their Christmas holidays two days ahead of time. One hundred cases were reported in six days.

County Tuberculosis Hospitals.—At a recent election, three additional counties, Chenango, Lewis and Suffolk, voted to establish tuberculosis hospitals. There are now twenty-nine counties in the State which either have or have planned for such hospitals. It is also reported that Nassau County, L. I., finds that the vote in favor of a tuberculosis hospital near Hempstead, L. I., must stand in spite of the objections of residents in that neighborhood.

New York Society of Anesthetists.—The following resolution was recently passed at a regular meeting of the New York Society of Anesthetists:

Resolved, That it be the sense of the New York Society of Anesthetists that the administration of a general anesthetic by any one other than a regularly qualified practitioner of medicine be not allowed; and that the County and State Societies be asked to press legislation to this end and, further, that this action by the New York Society of Anesthetists be published in all the State Medical Journals.

Examination of Candidates for Assistant Surgeon.—Boards of commissioned medical officers will be convened to meet at the Bureau of Public Health Service, 3 "B" Street, S. E., Washington, D. C., and at the Marine Hospitals of Boston, Mass., New York, N. Y., Chicago, Ill., St. Louis. Mo., Louisville, Ky., New Orleans, La., and San Francisco, Cal., on Monday, March 8, 1915, at 10 o'clock A. M., for the purpose of examin-candidates for admission to the grade of assistant surgeon in the Public Health Service, when applications for examination at these stations are received in the Bureau.

Candidates must be between 23 and 32 years of age, graduates of a reputable medical college, and must furnish testimonials from two responsible persons as to their professional and moral character. Service in hospitals for the insane or experience in the detection of mental diseases will be considered and credit given in the examination. Candidates must have had one year's hospital experience or two years' professional work.

Candidates must be not less than 5 feet, 4 inches, nor more than 6 feet, 2 inches, in height.

The following is the usual order of the examinations: 1, Physical; 2, Oral; 3, Written; 4, Clinical.

In addition to the physical examination, candidates are required to certify that they believe themselves free from any ailment which would disqualify them for service in any climate and that they will serve wherever assigned to duty.

The examinations are chiefly in writing, and begin with a short autobiography of the candidate. The remainder of the written exercise consists of examination in the various branches of medicine, surgery, and hygiene.

The oral examination includes subjects of preliminary education, history, literature, and natural sciences.

The clinical examination is conducted at a hospital.

The examination usually covers a period of about ten days.

Successful candidates will be numbered according to their attainments on examination, and will be commissioned in the same order. They will receive early appointments.

After four years' service, assistant surgeons are entitled to examination for promotion to the grade of passed assistant surgeon.

Assistant surgeons receive $2,000, passed assistant surgeons $2,400, surgeons $3,000, senior surgeon $3.500, and assistant surgeon generals $4,000 a year. When quarters are not provided, commutation at the rate of $30, $40, and $50 a month, according to the grade, is allowed.

All grades receive longevity pay, 10 per cent. in addition to the regular salary for every five years up to 40 per cent. after twenty years' service.

The tenure of office is permanent. Officers traveling under orders are allowed actual expenses.

For invitation to appear before the board of examiners, address "Surgeon-General, Public Health Service, Washington, D. C."

Died.—Dr. Hercule Dansereau (A. M. C. '53), died at Thibodeaux, Louisiana, January 2, 1915, aged 82 years.

—Dr. John A. MacPherson Smith (A. M. C. '55), died at Albany, N. Y., January 25, 1915, aged 82 years.

—Dr. Abram DeGraff (A. M. C. '58), Guilderland, N. Y., died at his home in that village, January 1, 1915.

—Dr. Charles T. Montgomery (A. M. C. '74), died at Saugerties, N. Y., January 15, 1915.

—Dr. Horace R. Powell (A. M. C. '82), of Poughkeepsie, N. Y., died December 30, 1914.

—Dr. William J. Sheehan (A. M. C. '97), died in New York City, January 14, 1915.

—Dr. John M. Adey (A. M. C. '99), died at his home in Cohoes, N. Y., December 26, 1914.

In Memoriam

John William Morris, M. D.

Dr. John William Morris was born in Greenwich, Washington County, N. Y., August 27, 1859. He attended the public schools of Troy, afterward spent three years at Selleck School at Norwalk, Conn. Four years in the office of Dr. Reed Brockway Bontecou followed, during which he attended the Rensselaer Polytechnic Institute, for special courses in botany, and the Albany Medical College, from which he was graduated in 1881.

He took up practice in Troy, N. Y., and was for many years an attending physician at Marshall Sanatorium. He was a member of the medical staff of the Troy City Hospital, consultant at The House of the Good Shepherd and a member of the New York State Medical Society and American Medical Association. He married Mary Agnes Thacher, a daughter of ex-Mayor George H. Thacher of Albany, in 1891. There were five children, Gabrielle Mary Thacher Morris, died in 1894; John Thacher Morris, Helen Rowe Morris, George Howell Morris, Virginia Morris and his wife survive. JOHN J. MC SHANE.

John M. Adey, M. D.

Dr. John M. Adey was born in Cohoes in the year 1874, and was a resident of this city all his life. His early education was acquired here in the public schools. He graduated from Egbert's High School in 1891. Later he entered the Albany Medical College and received his degree in the spring of 1898. In the earlier days of the establishment of the Cohoes Hospital he acted as its interne, and rendered valuable service and contributed by such service in assisting in bringing the hospital into the high and efficient place which it now holds in the community. He was an alumnus of the Albany Medical College, of the Class of 1899, and a member of the Albany County Medical Society. He was Registrar of Vital Statistics for many years, and his work was of so high a character that he received the commendation of his chief at the State Department.

Dr. Adey was of a genial and kindly disposition, and enjoyed the confidence of all. About six years ago he was operated upon for brain abscess, which nearly terminated his career at that time. Since then he has been a constant sufferer from nervous trouble and headache, which he bore with a fortitude which was surprising in one whose physique was never of the robust type. For this reason also, in the later years of his life, he was compelled to confine himself more to his office work, specializing in nose and throat practice, in which he was highly successful. In 1909 he married Anna Elizabeth Bedford, a graduate of the Cohoes Training School for Nurses, who proved a loving helpmeet to him in the last years of his suffering. J. H. MITCHELL.

Frank Arthur Searle, M. D.

Dr. Frank Arthur Searle, a graduate of the Albany Medical College of the Class of 1914, died at the Albany Hospital January 20, 1915, of malignant endocarditis. Dr. Searle came to Albany from Southampton, Mass., after an academic course in Williston Seminary. He graduated with honor and accepted an appointment as interne in the Albany Hospital, where he established a reputation for careful and conscientious work. His services there were acceptable in every way, and his pleasant personality endeared him to his associates. His death is most to be regretted and creates a sense of loss in his comrades who enjoyed association with him and had anticipated for him a successful career.

John A. Macpherson Smith, M. D.

Dr. Macpherson Smith, son of the late Peter and Margaret Macpherson Smith, died January 25, 1915, after a long illness. He was born in Albany, March 16, 1832. He was a student in the office of the late Dr. James McNaughton and graduated from the Albany Medical College with the Class of 1855. A few years later he gave up the practice of medicine and began a business career in New York, returning to Albany in 1903, where he has since lived. He was unmarried and leaves two nieces in Scotland, and a nieces and three nephews in Albany.

Current Medical Literature

REVIEWS AND NOTICES OF BOOKS

Diseases of Bones and Joints. By Leonard W. Ely, M. D., Associate Professor of Surgery, Leland Stanford Junior University, San Francisco, Cal. Surgery Publishing Company, 92 William St., New York City. 1914.

Dr. Ely states in the preface of his book that it is intended primarily for the general practitioner, and that the subject is presented as briefly as possible. A good share of the work is devoted to the discussion of pathology; the comprehension of which, as pointed out by the author, is a prerequisite for treatment.

The book contains 218 pages of subject-matter and is divided into nine chapters, the titles of which are as follows: Anatomy, Physiology and Pathology; Acute Arthritis; Chronic Arthritis, Type I.; Chronic Arthritis, Type I, continued; Chronic Arthritis, Type II; Ankylosis; Diseases of the Shafts; Chronic Inflammations in the Bone Shafts; New Growths in Bone.

The text is elucidated by ninety-four illustrations and many marginal annotations in red ink. I. M. B.

Collected Papers by the Staff of St. Mary's Hospital (Mayo Clinic) for 1913. Octavo of 819 pages, 335 illustrations. Philadelphia and London: W. B. Saunders Company, 1914. Cloth, $5.50 net.

It is exceedingly fortunate that the papers published by the members of the staff of the Mayo Clinic are each year collected into a single volume, thereby bringing together the wealth of observation and experience had in this greatest of all clinics and making it possible to follow closely the work done there without the necessity of perusing all of the current literature. This last volume, containing the papers published or presented in 1913, measures quite up to the standard set by the previous volumes. As usual we find more papers, twenty-six in all, devoted to the alimentary tract than to any other part of the body, and of these papers those dealing with various phases of gastric ulcer and cancer are the most numerous, the gall bladder and appendix being much less in evidence. Thirteen papers deal with the urogenital organs, several of these being on various phases of surgical disease of the breast. As might be expected, the ductless glands receive very considerable attention, there being fifteen papers on subjects of this character and most of them dealing with some phase of the goiter question, in which their experience has been so large. Eleven papers are on various conditions of the Head, Trunk and Extremities. On Technic there are eight papers, and the volume concludes with five papers of a general character. In this volume there are more papers on medical subjects than in any of the preceding volumes, which is an evidence of the broadening character and scope of the work of this clinic. There is so much of value to the physician and surgeon in this volume that no medical library will be complete without it. A. W. E.

Child Training as an Exact Science. By George W. Jacoby, M. D. With full bibliographical and thorough index. 384 pages, 15 full-page illustrations. Funk & Wagnalls Company, Publishers, New York. $1.50, net; by mail, $1.62.

This book presents in a lucid style a mass of facts and deductions which should prove of great value to the pedagogue. The first two-thirds of the book are devoted to the foundation upon which the author's conclusions are based. This foundation is comprised of an historical survey of the psychological aspects of pedagogy; a brief outline of the fundamentals of psychology; a short study of the mental development of the normal child; a chapter on the organic disorders of children, which affect their mentality; and a chapter on fundamental disorders which check the normal growth of the child's mind and body. The conclusions and opinions contained in the latter third of the book are not only interesting but are of real value to teachers. The author seems much impressed with the methods of Dr. Montessori and others of the ultra modern movement, and argues for the training of the child in the line of natural bent. Dr. Jacoby, like nearly all authors on child mentality, is obsessed with the problem of the feeble-minded. We have been accustomed to training

children without regard to their individualities. The time is here when educators are more desirous of developing particular capabilities as the basis of a successful later life, and on these grounds the author no doubt feels justified in the use of the phrase "Exact Science" rather than "Empirical" for the successful conduct of this new science of bringing up the child in the way he *would* go. The educator is encouraged to call in the services of the alienist, psychologist, hypnotist, psychotherapist, physician and surgeon. We are encouraged to abolish *a priori* theories and without bias to seek freedom from artificial methods.

"As applied to pedagogy it means that the methods of instruction deduced from the natural laws of the child's development enables us, notwithstanding a limited brain capability, to augment man's efficiency so as to fulfil the demands made by cultural progress and to do this without overtaxing the normally constituted child." JAS. S. DE F. HOLLENBECK.

The Clinics of John B. Murphy, M. D., at Mercy Hospital, Chicago. Published bi-monthly by W. B. Saunders Company, Philadelphia and London.

The August, October and December numbers of the Clinics continue the presentation of interesting and more or less unusual cases at the clinics of the Mercy Hospital. It is quite impossible to review the different subjects treated in the discussions of different phases of these cases. The general standard of the work has, however, been maintained and these volumes are a decided contribution to the case teaching system which has taken the place of the old didactic lecture. Perhaps more attention is paid to the surgery of bones and joints than to any other general subject, largely probably because of the special interest which Dr. Murphy has taken in this class of cases for the past few years. These volumes have the advantage of presenting the experience and observation of a single individual in an attractive manner and form a decided addition to current surgical literature. The illustrations are carefully selected and well executed and add materially to the value of the volumes. A. W. E.

MEDICINE

Edited by Samuel B. Ward, M. D., and Charles K. Winne, Jr., M. D.

A Comparisón of the Results of the Phenolsulphonephthalein Test of Renal Function with the Anatomical Changes Observed in the Kidneys at Necropsy.

WILLIAM S. THAYER and ROY R. SNOWDEN, *The American Journal of Medical Sciences, Vol. CXLVIII, No. 6, December,* 1914.

The writers point out that most of the reports upon the results obtained by the use of the phenolsulphonephthalein test of renal function as devised by Geraghty and Rowntree are based entirely upon clinical observations. They have therefore undertaken a study of a series of fatal cases upon which the 'phthalein test was made during life and in

which there had been a necropsy after death with careful microscopic study of the kidneys. In this study an anatomical classification of the material was first made independent of the clinical histories. The latter were then carefully analyzed and the results of the 'phthalein tests were then considered in relation to the anatomical changes in the kidneys and to the conditions existing clinically at the time when the tests were made.

The material studied consisted of fifty-four cases which were anatomically classified as follows:

Advanced chronic nephritis,	20 instances.
Chronic nephritis of moderate extent,	6 instances.
Cloudy swelling in association with grave acute infections,	6 instances.
Severe acute nephritis,	1 instance.
Amyloid kidney,	1 instance.
Hypernephroma (unilateral),	1 instance.
Chronic passive congestion (cardiac disease)	20 instances.

Chronic nephritis, advanced. The anatomical changes here observed were those of a progressive chronic inflammatory nephritis with more or less granular atrophy in gross, and microscopically, adhesive glomerulitis, hyaline glomeruli, a greater or less amount of interstitial change —infiltration, œdema, scarring. Acute terminal changes—hæmorrhages, exudate, cellular infiltration, epithelial swelling, and degeneration—varied in extent.

In these twenty patients, thirty-three estimations of the 'phthalein output gave figures varying from 0 to 38 per cent in two hours. The test was made within a week before death in eleven cases and in only two was there a larger figure than 18 per cent given; these were cases who died respectively of a dissecting aneurysm and a hemiplegia, accidents coming on in the course of a nephritis which had not as yet reached a stage of decompensation. In all the thirty-three tests there were only three which gave figures larger than 36 per cent; these were in the two cases referred to and in one other who died from myocardial insufficiency. In the latter case the test made eighteen days before death gave 16 per cent.

The manner of death in all these patients except the three referred to was from uræmia. The urine in all was of low specific gravity, contained a moderate amount of albumin, and was scanty towards the end, though there was usually a history of a previous polyuria. The sediment was, as a rule, scanty, consisting of hyaline and granular casts and occasionally red blood cells.

The maximum blood pressure was high in almost every instance. The one case in which it was low was in an anomalous case of nephritis in a child. In this case the low 'phthalein percentage was the chief factor in enabling a correct diagnosis to be made a few days before the patient died in uræmic coma. At autopsy a marked atrophic nephritis was found.

Relation of the percentage of 'phthalein excreted to the length of survival. The percentage excreted in two hours was 20 or over in 9 tests, 6 cases; longest survival, eight months. Percentage from 10 to 20 in six tests, six cases; longest survival, four months. Percentage under 10 in sixteen tests, 12 cases; longest survival, seventy-two days. The percentage was a trace only in seven tests, 4 cases; longest survival, seventy-two days. The 'phthalein was wholly suppressed in four tests, 4 cases; longest survival, five days. The writers point out that these results are quite in accord with those with which they have met in the clinic during the past few years in cases which have not come to autopsy. The combined experience of all the workers at this clinic along these lines shows that the test has a great diagnostic significance, as in no instance of grave chronic nephritis have they failed to find a marked diminution in the 'phthalein excretion. The above figures further reveal in a rather striking manner the progressive diminution in the excretion with an advance in the disease, and thus gives it a considerable prognostic value as well.

Chronic nephritis of moderate extent. There were six such cases, five of which were associated with a high degree of chronic passive congestion from cardiac failure.

The renal changes in these cases were not extensive and the kidneys showed little gross deformity. The urine in all cases was scanty, but with a specific gravity tending to be below normal. The albumin varied from a trace to a considerable amount.

The 'phthalein output in two hours varied from 16 to 42 per cent. In the one case in which it was made within a week before death the percentage was 16.

The blood pressure in this series was not strikingly high, due perhaps to the condition of the heart. On the whole the group represents older persons than those in whom more advanced nephritis was found, persons whose weakened hearts were less able to withstand the hypertension of an advancing nephritis. Death has, therefore, occurred from circulatory failure at an earlier period in the course of the renal disease.

Cloudy swelling. There were five instances of cloudy swelling occurring during severe infections. The microscopical changes in the kidneys were not extensive,—swelling and granular degeneration of the epithelium, engorgement of the capillaries, with the occasional escape of a few red blood cells into the glomerular spaces or tubules. The urine was rather scanty in all of the cases, of normal or high specific gravity, the albumin and casts varying from a slight amount to a very large amount.

The percentage of 'phthalein excreted in two hours varied from 20 per cent on the day of death to 50 per cent forty-five days before death. The test was made within two weeks before death in three instances, the excretion percentage of 'phthalein varying from 20 to 29 per cent.

The writers consider from their figures that a terminal cloudy swelling is associated with considerable diminution in the 'phthalein output.

Severe acute nephritis. There was one such case associated with ulcerative endocarditis, septicæmia and multiple infarcts. Blood pressure 135. Kidneys large, with swollen cortex and pale parenchyma, and microscopic evidence of grave acute nephritis. The 'phthalein excretion, four days before death, was but a trace in four hours.

Amyloid kidney. There was one such case, associated with old syphilis and extreme anæmia. Blood pressure 92 to 124. Urine scanty, moderate albumin, S. G. 1012 to 1015, with occasional hyaline casts. Patient died in coma.

Ten days before death the 'phthalein excretion was but 1.2 per cent in two hours, and two days before death it was but a trace.

Hypernephroma. In one case a large irregular tumor was palpable in the right renal region. The ureters were catheterized, and from the right side no 'phthalein was obtained; from the left, 17 per cent was excreted in fifteen minutes. The left kidney was found to be hypertrophied; the right was almost entirely destroyed, consisting largely of neoplastic tissue.

Chronic passive congestion. There were twenty instances in which the kidneys anatomically showed changes suggesting only chronic passive congestion. Clinically these were all cases of cardiac dilatation and insufficiency.

In these cases the 'phthalein excretion varied greatly according to the degree of cardiac compensation, ranging from a trace to 71 per cent. In nine cases the percentage excreted was under 20 per cent. In all there was grave cardiac decompensation. The nature of the change was as follows: In four cases syphilis of the aorta with aortic insufficiency and its sequels. In four cases fibrous myocarditis with dilatation. In one case fibrous myocarditis associated with chronic endocarditis and mitral insufficiency.

Four of these cases are very interesting as showing the great variations which may occur in one individual under varying circumstances. During decompensation the 'phthalein output was very low but later, when compensation was again established, or at least when the patient was temporarily better, the output increased, even to as high a figure as 60+ per cent.

The urine in these cases was scanty, and of normal or increased specific gravity. There was a trace of albumin and a few casts. The blood pressure in these patients, most of whom showed cardiac hypertrophy as well as dilatation, varied considerably but was in general high.

On the whole the 'phthalein figures showed a moderate decrease in the percentage excretion, a diminution which at times was extreme, amounting almost to a complete suppression. This is wholly in accord with previous experimental work.

Other tests for renal function were used in many of the cases cited in this paper, but were found to be far inferior in value and consistency of results to the 'phthalein test.

Artificial Pneumothorax.

G. B. Webb, G. B. Gilbert, T. L. James, and L. C. Havens. *The Archives of Internal Medicine, Vol.* 14, *No.* 6, *December,* 1914.

This report deals first with the writers' experience with artificial pneumothorax, in eighty-three patients with advanced pulmonary tuberculosis, and secondly with a series of gas analyses and animal experiments to determine the relative benefit from the use of air or nitrogen in the pleural cavity.

The series of cases they divide into the following groups:

I. Complete failure to find the pleural space (owing to extensive adhesions), 21 cases.

II. Advanced cases, usually with cavity. Involvement of other lung not serious, 25 cases.

1. Remarkable benefit, loss fever, sputum, cough, etc, 18
2. Some general benefit, 6
3. Very slight benefit, 1
4. No benefit whatever, 0

III. Far advanced; other lung involvement more serious, 29 cases.

1. Great benefit, 7
2. Fair degree of benefit, 5
3. Very slight benefit, 8
4. No benefit whatever, 9

IV. For hæmorrhages, 3 cases.

1. Hæmorrhages ceased but patient died later of other complications.
2. Completely successful.
3. Hæmorrhages ceased although very little collapse was obtained.

V. Lung abscesses (secondary to foreign body), 2 cases.

1. Apparent complete cure.
2. Death due to bad general condition.

VI. Lung tumor (for diagnosis and relief of pain), 1 case.

Among special incidents noted by the writers in connection with this series may be mentioned the following:

In two cases an X-ray examination revealed a mistake in the diagnosis as made from physical findings. In each case what had been considered as an apical cavity was shown on the plates to be the trachea pulled to one side by apical fibrosis.

Such retraction of the trachea to one side may signify adhesions at the apex which will prevent collapse of that part of the lung should artificial pneumothorax be attempted.

Within twenty-four hours of the first application of pneumothorax, spontaneous and complete pneumothorax followed in three patients. Fortunately this did not result fatally in any case though for a short time there were alarming symptoms present. The writers feel that this is a possible danger which has hitherto not been sufficiently emphasized.

In their series the left lung needed collapsing much more frequently than the right.

Over 900 injections of gas or air were successfully given.

A slight case of probable air embolism occurred once. Unconsciousness and stertorous breathing occurred for a few moments and the next day a transient weakness of one hand was noticed.

An appreciable amount of fluid developed late in the treatment in 10 cases or 16 per cent. This usually lessened or disappeared after partial tapping.

This fluid became purulent, but culturally sterile, in three of the cases.

Two patients who refused the application of pneumothorax, and whose conditions appeared hopeless without attempting the remedy, and two in whom the writers were unable to produce it, were later in excellent condition, walking several miles each day, and with almost complete absence of expectoration.

Experience showed that the compression should be kept up for probably several years. One patient after apparently complete recovery for two years began to have fever again as a result of too infrequent recompression. Hæmorrhages recurred eight months later in one patient who had only allowed the compression to be kept up three months.

The necessity of keeping up the compression over a long period of time is a serious drawback, as is also the possible annoyance to the patient of the development of fluid. For the present every other known method should be very thoroughly tried out before suggesting this method to patients.

As a result of the writers' gas analyses and animal experiments, they conclude that little if any advantage is to be gained by the employment of nitrogen rather than atmospheric air for the compression, as, owing to the rapid diffusion of gases, analyses of the gaseous content of the pleuræ made from twenty-four to forty-eight hours after the injections gave practically the same figures as to O, CO_2, and N percentages.

Clinically, the amount of gas necessary to produce and maintain a pneumothorax varied greatly in individual cases and seemed more dependent upon the size of the chest, the extent of the adhesions, and the rate of diffusion through the tissues of the individual than upon the nature of the gas used. Though the rate of absorption in individual cases seemed to be a law unto itself, yet, on the whole, it might have been necessary to use a trifle less nitrogen than air.

As to the ultimate composition of the gas in the pleura, in general it might be said, that the longer the time between injections, the higher was the percentage of carbon dioxide and the lower the percentage of oxygen, the former tending to reach 10 per cent and the latter from one per cent to zero. The immediate tendency was for the composition of the gas to assume the composition of the alveolar air, equilibrium probably being established through the mediastinal pleura from the alveolar air of the opposite lung.

Among the conclusions which the writers have drawn from their study are the following:

In severe chronic nephritis there is a uniformly low 'phthalein output

which, as a rule, in those instances, not interrupted by an acute terminal process, decreases steadily up to the onset of uræmia, and is nearly or wholly suppressed from a day or two to a month before death. Acute terminal processes which may be unsuspected clinically, are common, and here a sudden diminution in the elimination of 'phthalein may come on in cases where the percentage previously excreted is not so low as to appear menacing.

In not a single instance, and indeed not once in all the studies of the past five years, have we met with a case of severe chronic nephritis with a good 'phthalein elimination.

Chronic passive congestion (cardiac disease) results often in a considerable reduction in the amount of 'phthalein excreted in the two hour period. These results are very variable in the individual cases. In marked decompensation the output may be reduced to but a trace in the two hours; but the excretion is, as a rule, rapidly restored with the reëstablishment of circulatory compensation.

The cloudy swelling observed in acute infections was in some instances associated with considerable reduction in the 'phthalein output.

In the few instances of chronic nephritis of moderate extent which are included in this series the 'phthalein excretion was uniformly considerably reduced. All of these cases, however, were associated with chronic passive congestion of considerable extent, but the percentage of 'phthalein was lower than might have been expected with an uncomplicated passive congestion.

The Etiology of Splenic Anaemia or Banti's Disease, Preliminary Note.

J. L. Yates, C. H. Bunting, and H. T. Kristjanson. *The Journal of the American Medical Association, Vol. LXIII, No. 25, December 19, 1914.*

This article is a report of a continuation and extension of the writers' very interesting and very important work upon the etiology of Hodgkin's disease, which they have been carrying on for the past three years and upon which they have made several reports.

From two spleens removed surgically in the treatment of splenic anæmia they have obtained pure cultures of diphtheroid organisms identical with or closly related to their *Bacillus hodgkini*, which they obtained from the enlarged lymph nodes in cases of Hodgkin's disease. The diagnosis of splenic anæmia or Banti's disease was confirmed histologically.

Inoculation of dogs and rabbits was made with the cultures obtained from the second case and with the culture obtained from a Hodgkin's lymph-node. In each case there were produced changes that were characteristic of the disease as described by Banti.

These findings appear significant in view of the recent report by Gibbons of his finding in stained sections of six cases of splenomegaly Gram-staining streptothrichal organisms, at times segmented and at times appearing as bacillary forms.

The writers point out the following clinical evidence in support of their conclusions that splenic anæmia or Banti's disease and Hodgkin's disease are closely related, if not only variations in manifestations of a single type of infection:

Atrophic cirrhosis of the liver, as a complication of the more usually accepted glandular variety of Hodgkin's disease, has been often observed but is relatively infrequent. Earlier stages of periportal connective tissue overgrowth have been frequently seen. This rarity of advanced cirrhosis in "Hodgkin's" is probably due to the fact that life is, as a rule, insufficiently prolonged. In anæmia splenica the first stage usually lasts for from three to five years. This difference in duration, and in addition the relatively greater concentration of toxins in the portal circulation in Banti's disease, may explain why atrophic cirrhosis is a constant terminal feature in the latter condition.

In the clinical course of splenic anæmia there is the constant alternation of periods of progression and retrogression which are also noted in Hodgkin's disease. Also in both diseases is noted recurrent fever.

Banti himself recognized that splenic anæmia might be accompanied by enlargement of the lymph-nodes in the later stages, and that the histological changes in the spleen in the two diseases were similar. He thought it possible to regard "anæmia splenica as a pure form of pseudoleukæmia splenica" (Hodgkin's disease). In other words, Banti's disease might be regarded as Hodgkin's disease of the spleen.

NEUROLOGY

Edited by Henry Hun, M. D.

The Clinical Aspects of Syphilis of the Nervous System in the Light of the Wassermann Reaction and Treatment with Neosalvarsan.
HENRY HEAD and E. G. FEARNSIDES. *Brain, Vol. XXXVII, Part* 1, 1914.

A Comparison of the Lesions of Syphilis and "Parasyphilis," together with Evidence in Favour of the Identity of these Two Conditions.
JAMES MCINTOSH and PAUL FILDES. *Brain, Vol. XXXVII, Part* 1, 1914.

This issue of *Brain* is complete with the two above entitled contributions. In the article by Head and Fearnsides certain early symptoms of syphilitic infections are emphasized in order that management of the disease may begin before the appearance of structural changes. The effect of the poison in the central nervous system differs as it reaches different structures, and the essential distinction between syphilis and para-syphilis lies in the fact that in the former there is more active disturbance of the meninges, whereas in the latter some deeper structures are involved. It would be possible then to discuss "syphilis meningovascularis" and "syphilis centralis," thus doing away with the term parasyphilis.

It does not appear that the Wassermann reaction is necessarily nega-

tive in the former type of disease, although this has been generally held. The researches of Head and Fearnsides lead them to believe that the character of the Wassermann reaction in the cerebrospinal fluid in cases of meningo-vascular syphilis depends mainly on the site of the lesion. If the signs and symptoms point to an infection of the spinal cord, its membranes or nerve roots, the reaction is usually positive in the cerebrospinal fluid, and the strength of this reaction is often as great as that in any other condition of syphilitic origin; but the more completely the clinical manifestations are confined to the infection of the cerebrum or its vessels the more often is a negative reaction obtained in the cerebrospinal fluid. In infections of the cranial nerves the cerebrospinal fluid sometimes give a positive and sometimes a negative reaction. Thus, the key to the Wassermann reaction in the cerebrospinal fluid lies in the presence or absence of inflammatory changes in the meninges of the spinal cord and brain stem. If they are affected the reaction is positive, whilst if they have escaped the cerebrospinal fluid reacts negatively.

In this class of cases active and early treatment brings about a change in the Wassermann reaction, and in many cases of meningo-vascular syphilis a strongly positive reaction becomes negative in the cerebrospinal fluid following active treatment.

In syphilis centralis conditions are entirely different, for there is great difficulty in reaching the focus of disease in general paresis and locomotor ataxia by the remedies now in use. The arsenical compounds, such as salvarsan and neosalvarsan, do not enter the structure of the central nervous system in any effective quantity. In this lesion the cerebrospinal fluid is little, if at all, affected by treatment. The pathological condition is one of degeneration of the intrinsic structure of tracts and nuclei, with proliferation of the neuroglia. Individual tracts once involved proceed to complete destruction, and this represents the damage done by the disease. The special structure having been completely destroyed and no new elements having become involved, the progress of the disease is checked naturally, and this explains the limitations of progress and the appearance of quiescence in the progress of spinal and cerebral forms of syphilis centralis.

The important lesson of the clinical signs is that they reveal the site of the lesion and not the nature of the process producing it. It is in many cases impossible by bedside examination to determine whether the patient is suffering from dementia paralytica or syphilitic encephalitis. If he be suffering from the cerebral form of meningo-vascular syphilis great improvement may follow upon treatment, whereas in syphilis centralis, which phrase may be substituted for dementia paralytica, he is doomed to progressive and inevitable mental decay.

The investigations of this contribution are summarized as follows:

(1) All manifestations of syphilis of the central nervous system are consequent on the direct activity of the *Spirochae pallida.*

(2) The clinical picture evoked depends on the situation of this activity and on the susceptibility of the tissues.

(3) When the lesion lies mainly within the essential structures of the central nervous system both neuroglia and the nerve elements participate in the tissue-reaction. This results in the death and degeneration of certain systems of cells and fibres; to these secondary consequences may be due the greater part of the clinical manifestations.

(4) The more closely clinical signs and symptoms point to pathological changes in the meninges and vessels, the more certainly will the disease yield to adequate treatment.

On the other hand, the more nearly the clinical manifestations point to one or more foci of syphilitic activity within the parenchymatous tissues of the central nervous system, the less will they yield to the present methods of anti-syphilitic treatment.

(5) In syphilis meningo-vascularis the character of the Wassermann reaction in the cerebrospinal fluid depends upon whether the spinal or basal meninges are affected. Should clinical evidence point to affection of the contents of the spinal canal, and occasionally when the basal meninges alone appear to be affected, the reaction is positive in the cerebrospinal fluid. When, however, the disease seems to be limited to the intracranial contents, the reaction in the cerebrospinal fluid tends to be negative or weakly positive.

(6) In cases of syphilis centralis, such as dementia paralytica, tabes dorsalis, muscular atrophy and primary optic atrophy, the Wassermann reaction in the cerebrospinal fluid is strongly positive as long as the disease is active. When, however, it has come to an end, leaving behind it a greater or less amount of irreparable degeneration, the Wassermann reaction may diminish in strength or even become negative in the cerebrospinal fluid.

(7) Under treatment with salvarsan or neosalvarsan, the Wassermann reaction in cases of meningovascular syphilis, if at first positive, will usually become negative in the cerebrospinal fluid within six months.

On the other hand, the more the clinical manifestations point to syphilis centralis the less they will yield to any of the present forms of anti-syphilitic treatment.

(8) Thus no complete diagnosis or prognosis can be made until the patient has been under observation and treatment for at least six months, and the cerebrospinal fluid has been systematically examined from time to time.

(9) It is essential to employ a standard serological technique, such that the Wassermann reaction can be estimated quantitatively.

(10) Whatever the situation and nature of the lesion which is responsible for the clinical manifestations, some secondary degeneration must almost certainly result. Many of the signs and symptoms of syphilitic disease of the central nervous system are therefore not amenable to any form of anti-syphilitic treatment.

(11) It is, therefore, most important to make the diagnosis of syphilis early in disease of the central nervous system, so that treatment may be employed before the advent of these secondary changes.

McIntosh and Fildes show that there is no essential difference of syphilitic lesions in the three stages. They all contain the *Spirochaeta pallida*, but the tertiary processes differ in that they are caused by a much smaller number of spirochætas. The difference, in fact, is largely due to the selection by the virus of the interstitial or the parenchymatous tissues. In the former the reaction is marked, and there are proliferation and infiltration with slight degeneration; when the parenchyma is attacked the reaction is trivial and the degeneration extensive.

There are two main types of lesions: first, the focal, represented by the papule and the gumma, in which the virus is perivascular and exerts its effect chiefly upon the interstitial tissues, and, secondly, the diffuse, in which the intoxication falls upon the parenchyma.

The ultimate result of these two varieties of lesion upon the integrity of the organ will be entirely different. The interstitial lesion need produce no notable symptoms and derange no important function; with suitable treatment it may entirely resolve. It is, however, quite different in the case of the parenchymatous lesions. If the intoxication proceeds beyond the narrow limit of repair, the cells will degenerate, and with them will be lost the special function of the organ. Under these circumstances the treatment, which was efficient in dealing with the interstitial lesion, will be without avail. The symptoms will be occasioned not by the presence of syphilis, but by the absence of the parenchymatous tissue. This loss of function, well illustrated by the sterility following a parenchymatous orchitis, is irreparable.

The most pronounced distinction in the past between so-called parasyphilis and syphilis has been the futility of antisyphilitic treatment in the former. From this arose the inference that some other toxin had been evolved from the other syphilitic infection. A better explanation of this, however, is that the symptoms of dementia paralytica and tabes dorsalis arise from degeneration of nerve elements situated in the central nervous system, and as such elements have no power of regeneration no remedial measures can prevent the progress of the degeneration to the furthest limits of the neuron. The apparent progress of the lesion is clearly due not to a spirit of degenerative progress from neuron to neuron but to a continued activity of the primary intoxication which leads to the secondary degeneration, in fact to a continuation of the syphilitic inflammation in spite of treatment.

The brain contains no arsenic after intravenous injections of salvarsan, although if the arsenic does obtain access to the brain, as happens when the drug is inserted into the cerebrospinal canal, immediate symptoms of poisoning are apparent. The injection of "salvarsanized serum" into the cerebrospinal fluid has been advocated in the treatment of parenchymatous lesions of the brain, the fluid being selected on the assumption that this is the normal route of entry into the brain, while the "salvarsanized serum" is preferred to the crude drug because it is said to be less toxic and to be endowed with special therapeutic properties. That the serum has a certain therapeutic effect is probable since

it contains small quantities of salvarsan, but whether these small quantities of arsenic in the serum give any advantage over an equivalent quantity of crude neosalvarsan is certainly not proved. As shown by Wechselmann, traces of neosalvarsan may be injected intrathecally without harmful results, but when the quantity is increased for the purpose of attaining a more satisfactory therapeutic dose toxic symptoms arise. As in the case of other serous cavities, drugs are rapidly absorbed from the subarachnoid space and can thus directly affect the brain; when neurotropic drugs such as strychnine are administered by this route, in order to obtain the same effect as by other methods it is necessary to diminish the dose considerably. In the case of salvarsan, intravenously injected, the organotropic action is small, and therefore the quantity injected may be increased in order to obtain a maximum parasitotropic effect. The conditions are, however, different in the subarachnoid space. Here the drug is highly organotropic, and the "dosis maxima bene tolerata" is so small that its parasitotropic effect is trivial.

McIntosh and Fildes are of opinion that the intrathecal injection of salvarsanized serum or neosalvarsan in its present form can have no permanent vogue. They conclude: The progressive character of "parasyphilitic" lesions is due to a continuation of the syphilitic process in spite of treatment, and not to a progressive primary degeneration of the neurons. The degeneration passively extends to the limits of the neuron, but does not actively spread to other neurons. Treatment is ineffective in resolving the inflammation because drugs in the bloodstream are unable to pass from the capillaries into the nervous substance in order to destroy the spirochaetes. If by some method salvarsan succeeds in penerating into the brain or cord, it produces such toxic symptoms as make its use impossible.

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2.—Sputum should be sent in clean wide-mouth bottles; the ordinary vaseline bottle answers all purposes. The same bottle is suitable for faeces. Urine should be in clean bottles containing not less than six ounces.

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5.—Tissues and fluids for animal inoculation, e. g., hydrophobia, tetanus, tuberculosis, etc., are best sent packed in ice. In cases of suspected hydrophobia it is advisable to send the entire animal without injury to the brain or cord.

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7.—The bacteriological examination of milk requires certain precautions in the collection of the sample. Special instructions and proper containers will be sent upon application. The same holds true for the collection of blood for the Wassermann-Noguchi reaction for syphilis.

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